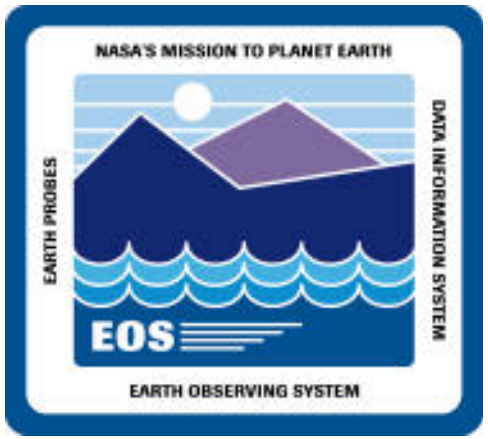


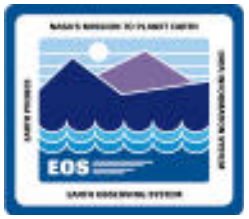
Incremental Track

Mike Daily

mdaily@eos.hitc.com

25 April 1996

Prototypes & Studies



Purpose

- Clarify requirements
- Mitigate risk
- Validate opportunities
- Learning/technology tracking

Evaluation Package (EP) early integration

- 5-7 month duration
- Less formal design/development
- Formal integration/test onto release

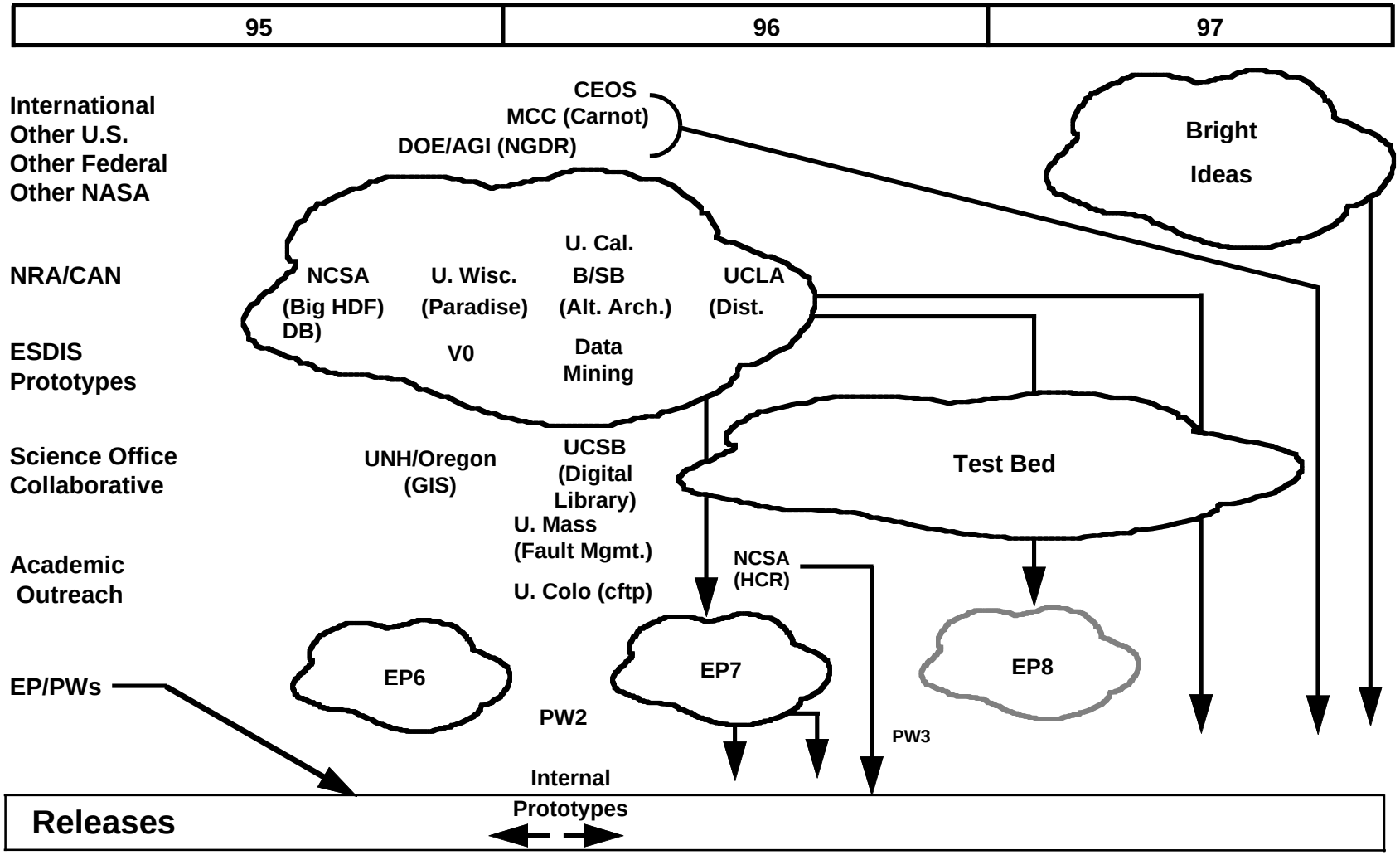
Prototype Workshop (PW) early visibility

- 8-12 week rapid development, then
- 2-3 day user-oriented workshop
- Focus is validation of coming EP

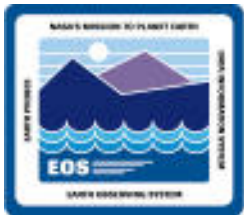
Ongoing Tracking/Management

- CDRL 318 & Web (EDHS/PTS)
- Strategic Plan (420-WP-008-001)
- Steering Group (ESDIS/ECS)

Prototypes & Studies Context
Possible Technology Insertions



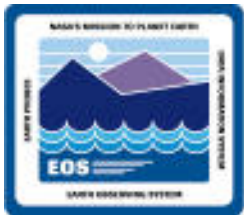
Prototypes/Studies Categories



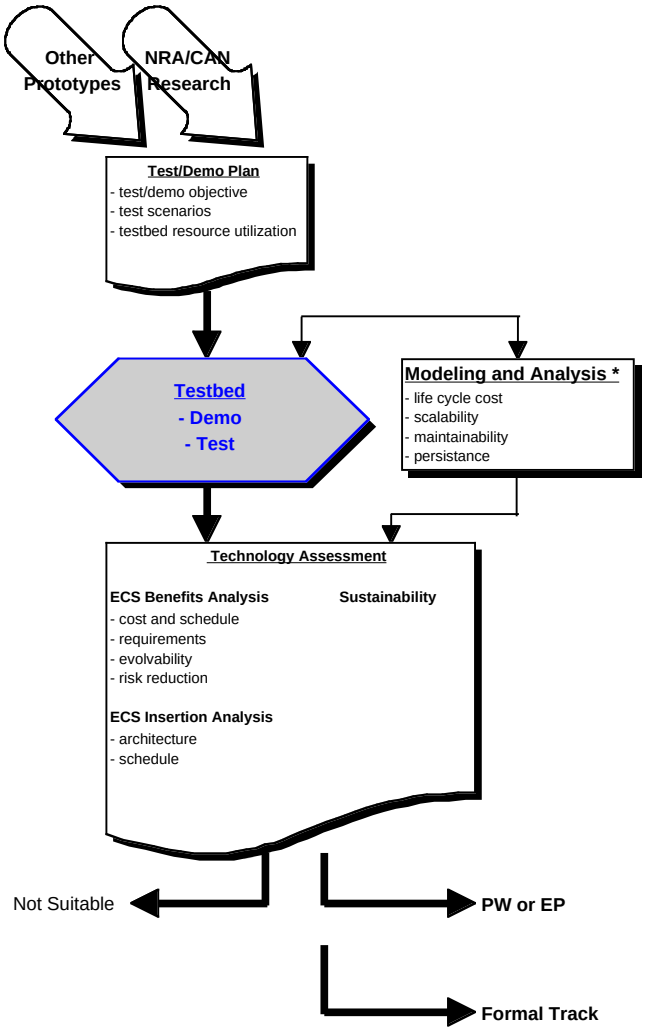
- NRA/CAN (NASA managed)
- Collaborative (ECS Science Office)
- Academic Outreach (SCDO)
- SCDO internal prototypes/ studies

- Research-oriented; insertion of concepts and designs
- Research-oriented; some work may be directly usable in Client
- Formal deliverables
- Part of existing development activities

ECS Technology Transfer Testbed: Concept

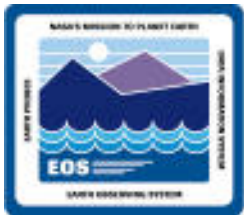


ECS Technology Transfer Testbed: Concept



* Modeling and Analysis studies are funded by NASA on an as-needed basis.

Current NRA/CAN Prototypes in ECS Testbed



UCLA, Mesrobian

Integrating Distributed Object Management Technology into EOSDIS

Building a prototype SCF (Science Computing Facility) based on the data abstraction concepts of distributed object management technology, including CORBA

UCBerkeley, Stonebraker/Troy

End-to-End Problems in EOSDIS

Developed a system whose major science driver is to support analysis of gridded multi-dimensional data.

U.Wisconsin, DeWitt

Paradise Clusters

Prototyping a parallel GIS system for large, multi-terabyte data sets

U.Colorado, Emery

Tools and Techniques for Automating the Analysis of EOSDIS Data

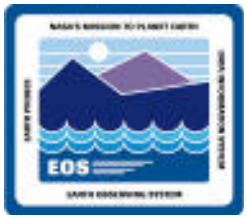
Developing a suite of tools, the Science Data Analysis Automation Toolkit (SDAÅT)

U.Alabama, Botts

EOSDIS Pathfinders: Interuse Experiment

Focused on developing scientific visualization tools for data of disparate resolutions, formats, etc.

Current ECS Collaborative Prototypes



University of Alabama, Huntsville, Graves

A Dataset-Independent Subsetting Prototype Advanced Prototype of a Full-Functional Subsetting Service

Design meetings complete; prototype contemporaneous with Release A

University of California Santa Barbara, Frew

Digital Libraries as ECS Value-Added Providers Interoperability, Alternative Clients, Potential User Interactions

Demonstrated at ECS; style aspects influenced ECS Java Client

Hughes Research Labs, Dao

Advanced Tools for Interoperability KnowledgeBased Schema Integration Tool (KBSIT)

Demonstrated at ECS; in evaluation for DDICT tool

Oregon State University, Abbott

Oceanography RDB-based SCF Interfaces within EOSDIS Collaboration, Integration, Access and Client Metaphor.

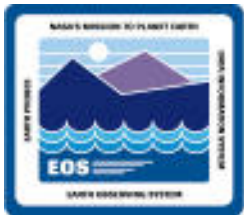
Designing Oceanography application view

University of New Hampshire, Moore

Land Process GIS-based SCF Interfaces within EOSDIS Collaboration, Integration, Access, and Client Metaphor.

Top-level design of Web-based GIS complete; Java partner

Academic Outreach



University of Colorado, Emery, Baldwin

- **CFTP: Check-pointing File Transfer Protocol**
- **Restart of interrupted large file transfers**
- ***Identified existing Ncftp package; adding GUI, compression***

University of Massachusetts, Cohen

- **Methods for Fault Isolation and Analysis**
- **Non-procedural fault detection of networks using AI**
- ***Design and requirements specification complete***

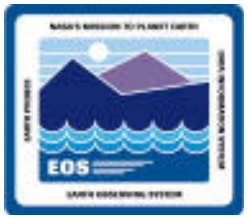
NCSA/University of Illinois, Folk

- **HCR (HDF-EOS Configuration Record) and Tools**
- **PVL description of HDF-EOS file internal format**
- ***Design underway; identified reusable ECS tools***

Allocation of Prototypes and Increments to EPs

EP6 TRR 10/95	PW2 1/96	EP7 TRR 6/96	PW3 10/96	Rel B TRR 12/96
INC 1 **Client** User Profile and Application Defaults Advertising Service Inventory Search User Registration Help Menu **Data Management** Data Dictionary **Interoperability** Integration with Infrastructure API Advertising Service **Prototypes** **Data Management** Data Server I/Fs (Data Server component of Infrastructure) **Data Server** Data Type Services Browse, Acquire, Search Inventory Directory	**Prototypes** **Client** ESST Upgrade (fast results rendering) Desktop Upgrade Java Earth Science Tool UMCP Dynamic Query V0 WWW IMS **Data Management** LIM ECS/V0 Gateway Data Dictionary	**INC 2** **Client** ESST Enhancement Product Request Upgrade Document Search Tool User Regristraction Update Data Dictionary Tool Update **Data Management** LIM ECS/V0 Gateway Data Dictionary **Prototypes** **Client** Java Earth Science Tool DAR UI	**Prototypes** Client Web w/Java Search Tool ESST w/phenomenology searching Product Request Upgrade Document Search Tool Upgrade (free text search) DAR DPR **Data Management** DIM **Data Server** Subsetting (external)	**Formal** **Client** Remaining Client functionality **Data Management** Remaining DM functionality

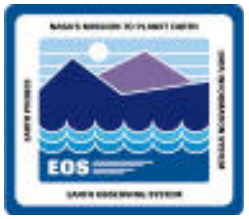
Web Client Progression



- **EP7, June 1996 (Basic-Web Client):**
  - **Java Earth Science Tool (JEST)**
    - **End-to-end capabilities: search, results, browse, acquire**
    - **Search qualification via spatial, temporal, and discrete attributes (20)**
    - **Direct link to Illustra prototype via ESQL**
    - **Dependent Valids**
    - **Search/Results/Order management**
  - **Advertising**
  - **Data Dictionary**
  - **Document Search (Guide)**
  - **Other EP6 Features (User Registration/Profile/Trouble Ticketing)**

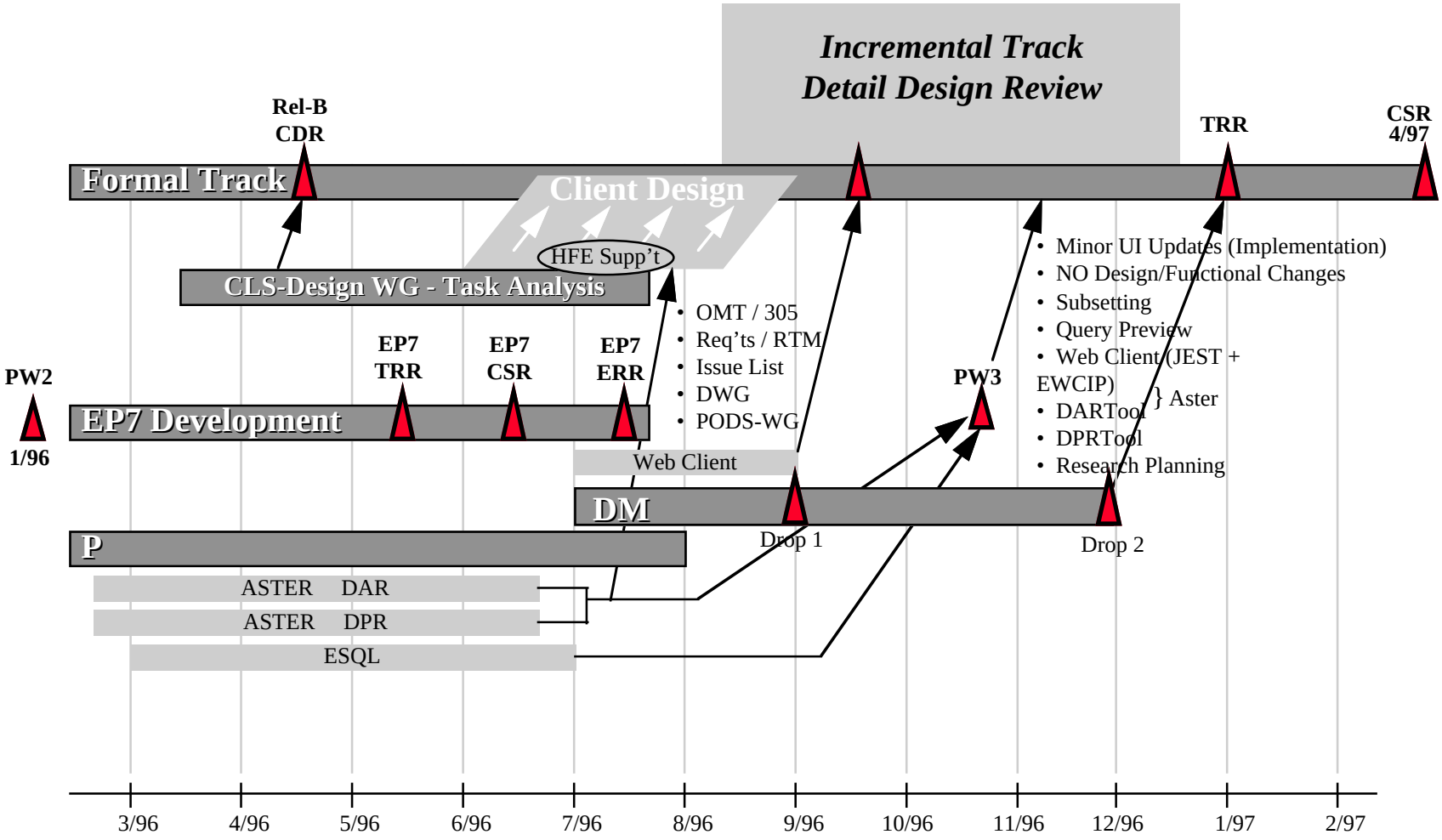
- **Proposed JEST Deltas at ITDDR, September 18, 1996**
  - **ECS Web Client Infrastructure Prototype (EWCIP), e.g., session management**
  - **Other Map Projections**
  - **Subsetting**
  - **Full browsing capability**
  - **Query Preview**
- **EP8, Advanced Web Client (stateful and secure)**
  - **Available between Rel B CSR & TRR**
  - **Release contemporaneous with Rel B**
  - **Rel B/V1 Web Client plus:**
    - **Full integration of EWCIP Technology**
    - **Mid-97 vintage HTML, Java, etc. versions**

Incremental Track Detailed Design Review



- **Marks transition of incremental development to formal track for Release B**
- **Client and Data Management Subsystem detailed design**
- **Includes formal documentation**
- **Purpose: To provide an opportunity to evaluate detailed design of Incremental Track subsystems prior to formal coding transition**

Release B Incremental Track Implementation Schedule



Main Migration Events

EP7 ERR - 7/17

CDWG

Announcement and Web page posting - 4/12
Kick-off meeting - week of 4/29 (actual date TBD)
L4 requirement refinement to as-built - by 7/31

Review

Redelivery of DID 305 (formal track baseline) - by 9/18
Incremental-Track Detailed Design Review - 9/18

PW3 - October

- **late-stage refinement of minor GUI and workflow feedback**

Rel-B TRR - 1/16/97